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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,542	11/15/2001	Avi J. Ashkenazi	P2730P1C26	7269

28457 7590 03/09/2004

BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, IL 60610

EXAMINER	
LANDSMAN, ROBERT S	

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/997,542	GENENTECH, INC.	
	Examiner	Art Unit	
	Robert Landsman	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *119-124* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *119-124* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/24/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Sequence Comparisons A-C*.

DETAILED ACTION

1. Formal Matters

A. The Preliminary Amendment dated 11/15/01, has been entered into the record.

B. The Preliminary Amendment dated 9/3/02, has been entered into the record.

C. Claims 119-124 are pending and are the subject of this Office Action.

2. Priority

According to the priority statement of 9/3/02, it appears that the claimed subject matter defined in the instant application is supported by the parent application serial no. 60/096,950. However, the Examiner has concluded that the subject matter defined in this application is not supported by any of the applications in the chain of priority because the presently claimed subject matter is not supported by a specific, substantial or well-established utility, nor, for this reason, is it enabled. Accordingly, the subject matter defined in claims 119-124 has an effective filing date of 11/15/01, which is the filing date of the present application.

Should the applicant disagree with the examiner's factual determination above, it is incumbent upon the applicant to provide the serial number and specific page number(s) of any parent application filed prior to 11/15/01 which specifically supports the particular claim limitation for each and every claim limitation in all the pending claims which applicant considers to have been in possession of and fully enabled for prior to 11/15/01.

3. Information Disclosure Statement

A. References A1 and A2 have been lined through since they are not in proper format, including author and date of deposit.

4. Specification

A. Though none could be found, due to the length of the specification, Applicants are reminded that embedded hyperlink and/or other form of browser-executable code are not permitted in the specification. See MPEP § 608.01.

B. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title recites polypeptides and polynucleotides whereas the claims are drawn to antibodies.

5. Claim Objections

A. The syntax of claims 119 and 124 could be improved by replacing the phrase "shown in Figure 233 (SEQ ID NO:326)" with "of SEQ ID NO:326."

6. Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

A. Claims 119-124 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by a specific, substantial and credible asserted utility or a well established utility. These claims are directed to antibodies which bind to the protein of SEQ ID NO:326. However, the invention encompassed by these claims has no apparent or disclosed patentable utility. This rejection is consistent with the current utility guidelines, published 1/5/01, 66 FR 1092. The instant application has provided a description of an isolated protein. However, the instant application does not disclose a specific and substantial biological role of this protein or its significance.

However, it is clear from the instant specification that the claimed antibody which binds to what is termed an "orphan receptor" in the art. The instant application does not disclose the biological role of the claimed protein or its significance. Applicants disclose in the specification that the receptor is a secreted protein. However, this fact, alone, is insufficient to confer utility to the protein of the present invention. Therefore, the instant claims are drawn to an antibody to a protein which has a yet undetermined function or biological significance. There is no actual and specific significance which can be attributed to said protein identified in the specification. For this reason, the instant invention is incomplete. In the absence of a knowledge of the natural ligands or biological significance of this protein, there is no immediately obvious patentable use for it, or for the antibody. To employ a protein or antibody of the instant invention in the identification of substances which bind to and/or mediate activity of the said receptor is clearly to use it as the object of further research which has been determined by the courts to be a non-patentable utility. Since the instant specification does not disclose a "real-world" use for said

protein then the claimed invention is incomplete and, therefore, does not meet the requirements of 35 U.S.C. 101 as being useful.

Furthermore, since the protein of the invention is not supported by a specific and substantial asserted utility or a well established utility, the claimed antibodies also lack utility.

7. Claim Rejections - 35 USC § 112, first paragraph - enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

A. Claims 119-124 are rejected under 35 U.S.C. 112, first paragraph, as failing to adequately teach how to use the instant invention. Specifically, since the claimed invention is not supported by a specific, substantial and credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

8. Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A. Claim 122 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not understood how an antibody can be both an "antibody" and a "fragment." The phrase "an antibody, or fragment thereof," for example, could be used in independent claim 119 and claim 122 could be cancelled.

B. Claim 124 is confusing since it is not clear what the definition of "specifically binds" is. This term is not defined in the specification. Furthermore, it is not clear how this claim differs from that of claim 119, where the antibody "binds" the protein of SEQ ID NO:3~~1~~5.

9. Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

A. Claims 119-124 are rejected under 35 U.S.C. 102(b) as being anticipated by Baker et al. (WO 99/63088). The claims recite an antibody which binds to the protein of SEQ ID NO:326. The claims also recite a monoclonal, polyclonal, humanized, or labeled antibody. Baker et al. teach a protein which is 100% identical to SEQ ID NO:326 of the present invention (Sequence Comparison A). Baker also teach monoclonal, polyclonal, humanized, labeled antibodies and antibody fragments (page 309, lines 16-21; page 311, line 28 – page 313, line 6 and page 365, line 16 – page 368, line 37).

B. Claims 119-124 are rejected under 35 U.S.C. 102(a) as being anticipated by Tang et al. (WO 01/53312). The claims recite an antibody which binds to the protein of SEQ ID NO:326. The claims also recite a monoclonal, polyclonal, humanized, or labeled antibody. Tang et al. teach a protein which has numerous areas of 6 or more contiguous amino acids of SEQ ID NO:326 of the present invention (Sequence Comparison B). Tang also teach monoclonal, polyclonal, humanized and labeled antibodies as well as fragments thereof (pages 74-83).

10. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

A. Claims 119-124 are rejected under 35 U.S.C. 103(a) as being anticipated by Weimann et al. in view of Baker et al. (WO 99/63088). The teachings of Weimann et al. and Baker et al. are seen in the

above rejection under 35 USC 102. Weimann et al. teach a protein which is 100% identical to approximately 522 contiguous amino acids of SEQ ID NO:326 of the present invention (Sequence Comparison C). Weimann do not specifically teach any of the antibodies claimed by the present invention. However, Baker do teach monoclonal, polyclonal, humanized, labeled antibodies and antibody fragments (page 309, lines 16-21; page 311, line 28 – page 313, line 6 and page 365, line 16 – page 368, line 37). The artisan would have been motivated to make these antibodies in order to produce an antibody to isolate the protein (polyclonal), to a specific epitope of the protein of Weimann (monoclonal), or for detecting the protein (labeling) or any type of use involving humans, or the human variants of the protein of Weimann (humanized).

B. Claims 119-124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weimann et al. (Genome Research) in view of Tang. The teachings of Tang are seen in the above rejection under 35 USC 102. Weimann et al. teach a protein which is 100% identical to approximately 522 contiguous amino acids of SEQ ID NO:326 of the present invention (Sequence Comparison C). Weimann do not specifically teach any of the antibodies claimed by the present invention. However, Tang do teach these antibodies. It would have been obvious for one of ordinary skill in the art at the time of the present invention to have made polyclonal, monoclonal, labeled or humanized antibodies in view of the teachings of Tang since the procedures for producing an antibody to the protein of Weimann is identical to those to produce the antibody of Tang. The artisan would have been motivated to make these antibodies in order to produce an antibody to isolate the protein (polyclonal), to a specific epitope of the protein of Weimann (monoclonal), or for detecting the protein (labeling) or any type of use involving humans, or the human variants of the protein of Weimann (humanized).

11. Conclusion

A. No claim is allowable.

Advisory information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Landsman whose telephone number is (703) 306-3407. The examiner can normally be reached on Monday - Friday from 8:00 AM to 5:00 PM (Eastern time) and alternate Fridays from 8:00 AM to 5:00 PM (Eastern time).

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Gary Kunz, can be reached on (703) 308-4623.

Official papers filed by fax should be directed to (703) 308-4242. Fax draft or informal communications with the examiner should be directed to (703) 308-0294.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Robert Landsman, Ph.D.
Patent Examiner
Group 1600
March 03, 2004

ROBERT LANDSMAN
PATENT EXAMINER

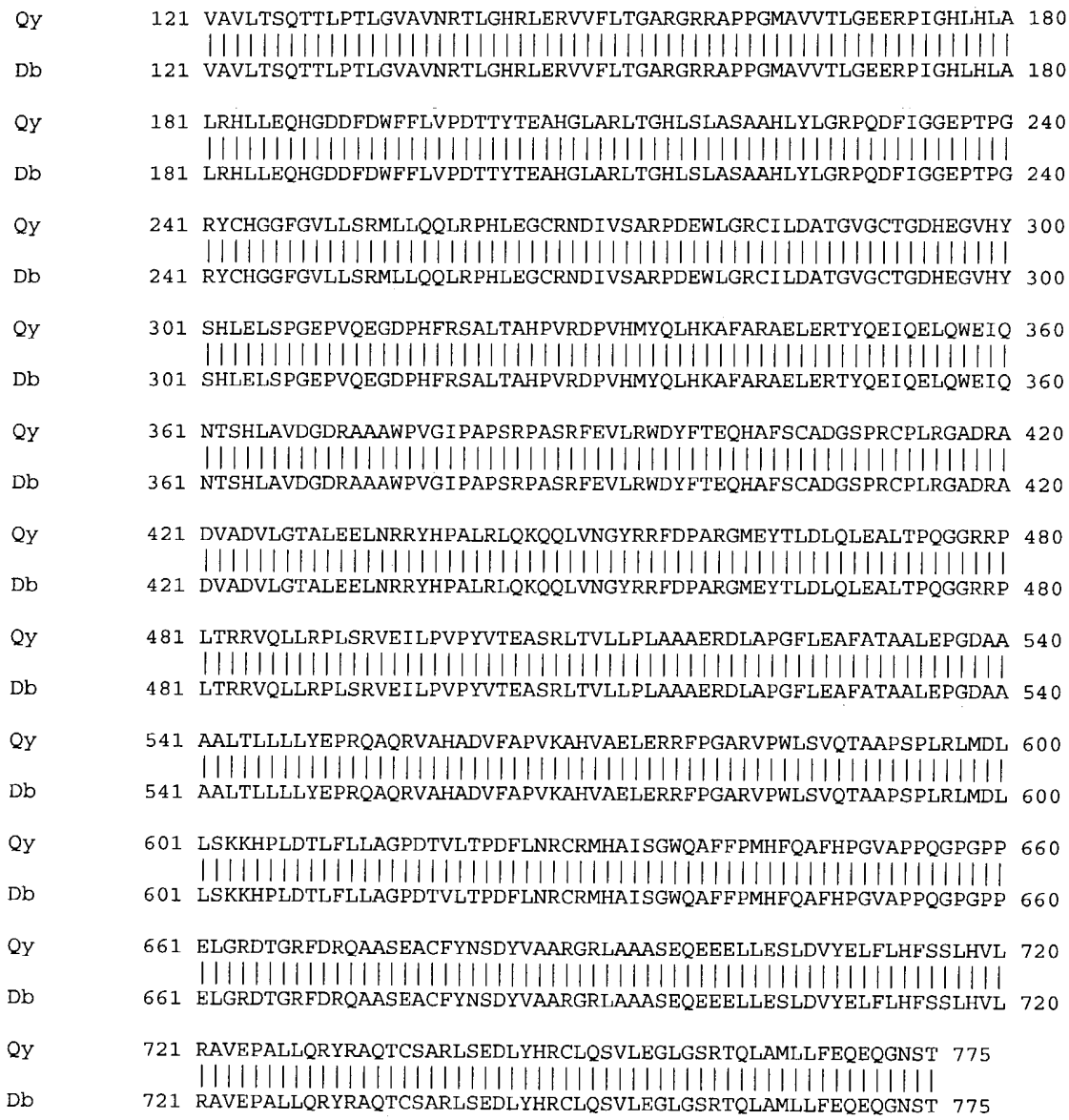
Sequence Comparison A

```
ID   AAY66729 standard; protein; 775 AA.
XX
AC   AAY66729;
XX
DT   05-APR-2000  (first entry)
XX
DE   Membrane-bound protein PRO1281.
XX
KW   Membrane-bound polypeptide; PRO polypeptide; LDL receptor; TIE ligand;
KW   pharmaceutical; receptor immunoadhesin; gene mapping.
XX
OS   Homo sapiens.
XX
PN   WO9963088-A2.
XX
PD   09-DEC-1999.
XX
PF   02-JUN-1999;   99WO-US12252.
XX
PR   02-JUN-1998;   98US-0087607.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Baker K,  Chen J,  Goddard A,  Gurney AL,  Smith V,  Watanabe CK;
PI   Wood WI,  Yuan J;
XX
DR   WPI; 2000-072883/06.
DR   N-PSDB; AAZ65074.
XX
PT   Membrane-bound proteins and related nucleotide sequences  -
XX
PS   claim 12; Fig 233; 822pp; English.
XX
CC   The invention provides membrane-bound PRO polypeptides and
CC   polynucleotides encoding them. The PRO sequences of the invention were
CC   identified based on extracellular domain homology screening. The PRO
CC   sequences have homology with proteins including LDL receptors, TIE
CC   ligands and various enzymes. The membrane-bound proteins and receptor
CC   molecules are useful as pharmaceutical and diagnostic agents. Receptor
CC   immunoadhesins, for instance, can be used as therapeutic agents to block
CC   receptor-ligand interactions. The membrane-bound proteins can also be
CC   employed for screening of potential peptide or small molecule inhibitors
CC   of the relevant receptor/ligand interaction. The PRO encoding sequences
CC   are useful as hybridization probes, in chromosome and gene mapping and in
CC   the generation of antisense RNA and DNA. PRO nucleic acid sequences
CC   will also be useful for the preparation of PRO polypeptides, especially
CC   by recombinant techniques.
XX
SQ   Sequence   775 AA;

  Query Match             100.0%;  Score 4074;  DB 21;  Length 775;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches  775;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MRASLLLSVLRPAGPVAVGISLGFTLSLLSVTWVEEPCGPGPPQPGDSELPPRGNTNAAR 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MRASLLLSVLRPAGPVAVGISLGFTLSLLSVTWVEEPCGPGPPQPGDSELPPRGNTNAAR 60

Qy         61 RPNSVQPGAEREKPGAGEGAGENWEPRVLPYHPAQPGQAAKKAVRTRYISTELGIRQRLL 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 RPNSVQPGAEREKPGAGEGAGENWEPRVLPYHPAQPGQAAKKAVRTRYISTELGIRQRLL 120
```


Qy 121 VAVLTSQTTLPTLGVAVNRTLGHRLERVVFLTGARGRRAPPGMAVVTLGEERPIGHLHLA 180
Db 121 VAVLTSQTTLPTLGVAVNRTLGHRLERVVFLTGARGRRAPPGMAVVTLGEERPIGHLHLA 180
Qy 181 LRHLLEQHGDDFDWFFLVPDTTYTEAHGLARLTGHLSLASAAHLYLGRPQDFIGGEPTPG 240
Db 181 LRHLLEQHGDDFDWFFLVPDTTYTEAHGLARLTGHLSLASAAHLYLGRPQDFIGGEPTPG 240
Qy 241 RYCHGGFGVLLSRMLLQQLRPHLEGCRNDIVSARPDEWLGRCILDATGVGCTGDHEGVHY 300
Db 241 RYCHGGFGVLLSRMLLQQLRPHLEGCRNDIVSARPDEWLGRCILDATGVGCTGDHEGVHY 300
Qy 301 SHLELSPGEPVQEGDPHFRSALTAHPVRDPVHMYQLHKAFARAELERTYQEIQELQWEIQ 360
Db 301 SHLELSPGEPVQEGDPHFRSALTAHPVRDPVHMYQLHKAFARAELERTYQEIQELQWEIQ 360
Qy 361 NTSHLAVDGDRAAAWPVGIPAPSRPASRFEVLRWDYFTEQHAFSCADGSPRCPLRGADRA 420
Db 361 NTSHLAVDGDRAAAWPVGIPAPSRPASRFEVLRWDYFTEQHAFSCADGSPRCPLRGADRA 420
Qy 421 DVADVLGTALEELNRRYHPALRLQKQQLVNGYRRFDPARGMEYTLDLQLEALTPQGGRRP 480
Db 421 DVADVLGTALEELNRRYHPALRLQKQQLVNGYRRFDPARGMEYTLDLQLEALTPQGGRRP 480
Qy 481 LTRRVQLLRPLSRVEILPVPYVTEASRLTVLLPLAAAERDLAPGFLEAFATAALEPGDAA 540
Db 481 LTRRVQLLRPLSRVEILPVPYVTEASRLTVLLPLAAAERDLAPGFLEAFATAALEPGDAA 540
Qy 541 AALTLLLLYEPRQAQRVAHADVFAPVKAHVAELERRFPGARVPWLSVQTAAPSPLRLMDL 600
Db 541 AALTLLLLYEPRQAQRVAHADVFAPVKAHVAELERRFPGARVPWLSVQTAAPSPLRLMDL 600
Qy 601 LSKKHPLDTLFLLAGPDTVLTPDFLNRCRMHAISGWQAFFPMHFQAFHPGVAPPQGPGPP 660
Db 601 LSKKHPLDTLFLLAGPDTVLTPDFLNRCRMHAISGWQAFFPMHFQAFHPGVAPPQGPGPP 660
Qy 661 ELGRDTGRFDRQAASEACFYNSDYVAARGRLAAASEQEEELLESLDVYELFLHFSSLHVL 720
Db 661 ELGRDTGRFDRQAASEACFYNSDYVAARGRLAAASEQEEELLESLDVYELFLHFSSLHVL 720
Qy 721 RAVEPALLQRYRAQTCSARLSEDLYHRCLQSVLEGLGSRTQLAMLLFEQEQGNST 775
Db 721 RAVEPALLQRYRAQTCSARLSEDLYHRCLQSVLEGLGSRTQLAMLLFEQEQGNST 775

Sequence Comparison B

```
ID   AAM39781 standard; Protein; 772 AA.
XX
AC   AAM39781;
XX
DT   22-OCT-2001  (first entry)
XX
DE   Human polypeptide SEQ ID NO 2926.
XX
KW   Human; nootropic; immunosuppressant; cytostatic; gene therapy; cancer;
KW   peripheral nervous system; neuropathy; central nervous system; CNS;
KW   Alzheimer's; Parkinson's disease; Huntington's disease; haemostatic;
KW   amyotrophic lateral sclerosis; Shy-Drager Syndrome; chemotactic;
KW   chemokinetic; thrombolytic; drug screening; arthritis; inflammation;
KW   leukaemia.
XX
OS   Homo sapiens.
XX
PN   WO200153312-A1.
XX
PD   26-JUL-2001.
XX
PF   26-DEC-2000; 2000WO-US34263.
XX
PR   21-JAN-2000; 2000US-0488725.
PR   25-APR-2000; 2000US-0552317.
PR   09-JUL-2000; 2000US-0598042.
PR   19-JUL-2000; 2000US-0620312.
PR   03-AUG-2000; 2000US-0653450.
PR   14-SEP-2000; 2000US-0662191.
PR   19-OCT-2000; 2000US-0693036.
PR   29-NOV-2000; 2000US-0727344.
XX
PA   (HYSE-) HYSEQ INC.
XX
PI   Tang YT,  Liu C,  Asundi V,  Chen R,  Ma Y,  Qian XB,  Ren F,  Wang D;
PI   Wang J,  Wang Z,  Wehrman T,  Xu C,  Xue AJ,  Yang Y,  Zhang J;
PI   Zhao QA,  Zhou P,  Goodrich R,  Drmanac RT;
XX
DR   WPI; 2001-442253/47.
DR   N-PSDB; AAI58937.
XX
PT   Novel nucleic acids and polypeptides, useful for treating disorders
PT   such as central nervous system injuries -
XX
PS   Example 4; SEQ ID NO 2926; 10078pp; English.
XX
CC   The invention relates to human nucleic acids (AAI57798-AAI61369) and
CC   the encoded polypeptides (AAM38642-AAM42213) with nootropic,
CC   immunosuppressant and cytostatic activity. The polynucleotides are useful
CC   in gene therapy. A composition containing a polypeptide or polynucleotide
CC   of the invention may be used to treat diseases of the peripheral nervous
CC   system, such as peripheral nervous injuries, peripheral neuropathy and
CC   localised neuropathies and central nervous system diseases, such as
CC   Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
CC   lateral sclerosis, and Shy-Drager Syndrome. Other uses include the
CC   utilisation of the activities such as: Immune system suppression,
CC   Activin/inhibin activity, chemotactic/chemokinetic activity, haemostatic
CC   and thrombolytic activity, cancer diagnosis and therapy, drug screening,
CC   assays for receptor activity, arthritis and inflammation, leukaemias and
CC   C.N.S disorders.
CC   Note: The sequence data for this patent did not form part of the printed
CC   specification.
XX
```

SQ Sequence 772 AA;

Query Match 54.7%; Score 2227.5; DB 22; Length 772;
Best Local Similarity 56.6%; Pred. No. 1.2e-180;
Matches 455; Conservative 101; Mismatches 187; Indels 61; Gaps 14;

```
Qy          1 MRASLLLSVLRPAGPVAVGISLGFTLSLLSVTWV----EEPC-----GPGPPQPGDSELP 51
              || | ||::|||| |: :|:||| :|||| |:|:    |:||       | ||  ||
Db          1 MRLSSLLALLRPALPLILGLSLGCSLSLLRVSWIQGEGEDPCVEAVGERGGPQNPDSR-- 58

Qy         52 PRGNTNAARRPNSVQPGAEREKPGAGEGAGENWEPRVLPYHPAQPGQAAKKAVRTRYIST 111
                    ||   |                 |:::||::||:   | :  || :|||| |
Db         59 -------ARLDQS---------------DEDFKPRIVPYY-RDPNKPYKKVLRTRYIQT 94

Qy        112 ELGIRQRLLVAVLTSQTTLPTLGVAVNRTLGHRLERVVFLTGARGRRAPPGMAVVTLGEE 171
              ||| |:|||||||||: || || ||||||: |   |::: || || ||| || ||: |:|
Db         95 ELGSRERLLVAVLTSRATLSTLAVAVNRTVAHHFPRLLYFTGQRGARAPAGMQVVSHGDE 154

Qy        172 RPIGHLHLALRHLLEQHGDDFDWFFLVPDTTYTEAHGLARLTGHLSLASAAHLYLGRPQD 231
              ||   :   ||||    | |:||||:: | || :|  || | ||||:     ||||| ::
Db        155 RPAWLMSETLRHLHTHFGADYDWFFIMQDDTYVQAPRLAALAGHLSINQ--DLYLGRAEE 212

Qy        232 FIG-GEPTPGRYCHGGFGVLLSRMLLQQLRPHLEGCRNDIVSARPDEWLGRCILDATGVG 290
              ||| ||    |||||||| |||| || :|||||:||| ||:||||||||||::|: |||
Db        213 FIGAGE--QARYCHGGFGYLLSRSLLLRLRPHLDGCRGDILSARPDEWLGRCLIDSLGVG 270

Qy        291 CTGDHEGVHYSHLELSPG-EPVQEGDPHFRSALTAHPVRDPVHMYQLHKAFARAELERTY 349
              |   |:|  |   ||:   :| :||   | ||   ||| :   ||:||| |:  |||| |
Db        271 CVSQHQGQQYRSFELAKNRDPEKEGSSAFLSAFAVHPVSEGTLMYRLHKRFSALELERAY 330

Qy        350 QEIQELQWEIQNTSHLAVDGDRAAAWPVGIPAPSRPASRFEVLRWDYFTEQHAFSCADGS 409
               ||::|| :|:| : |  :|:   :||||:|||  | |||||| |||||||| ||||||:
Db        331 SEIEQLQAQIRNLTVLTPEGEAGLSWPVGLPAPFTPHSRFEVLGWDYFTEQHTFSCADGA 390

Qy        410 PRCPLRGADRADVADVLGTALEELNRRYHPALRLQKQQLVNGYRRFDPARGMEYTLDLQL 469
              |:|||:|| |||| | | ||||:||||| | || |||:|:|||||||||||||||||| |
Db        391 PKCPLQGASRADVGDALETALEQLNRRYQPRLRFQKQRLLNGYRRFDPARGMEYTLDLLL 450

Qy        470 EALTPQGGRRPLTRRVQLLRPLSRVEILPVPYVTEASRLTVLLPLAAAERDLAPGFLEAF 529
              | :| :| || | ||| |||||||||||:||||||:|: ::|||  ||   || |||||
Db        451 ECVTQRGHRRALARRVSLLRPLSRVEILPMPYVTEATRVQLVLPLLVAEAAAAPAFLEAF 510

Qy        530 ATAALEPGDAAAALTLLLLYEPRQAQRVAHADVFAPVKAHVAELERRFPGARVPWLSVQT 589
              |   ||| :  | |||||:| ||:  | |  | |  ||| ||||||:|| |: ||:|:
Db        511 AANVLEPRE-HALLTLLLVYGPREGGRGA-PDPFLGVKAAAAELERRYPGTRLAWLAVRA 568

Qy        590 AAPSPLRLMDLLSKKHPLDTLFLLAGPDTVLTPDFLNRCRMHAISGWQAFFPMHFQAFHP 649
               ||| :||||::|||||:|||| |    |   |: ||||||:||||||||||:||| |:|
Db        569 EAPSQVRLMDVVSKKHPVDTLFFLTTVWTRPGPEVLNRCRMNAISGWQAFFPVHFQEFNP 628

Qy        650 GVAPPQG-PGPPELGRDT---------------GRFDRQAASEACFYNSDYVAARGRLAA 693
               ::| :  ||||  | |                 |||||||::| ||||:||:||| |||
Db        629 ALSPQRSPPGPPGAGPDPPSPPGADPSRGAPIGGRFDRQASAEGCFYNADYLAARARLAG 688

Qy        694 --ASEQEEELLESLDVYELFLHFSSLHVLRAVEPALLQRYRAQTCSARLSEDLYHRCLQS 751
                | ::||| || |:| ::|| || ||: ||||| |:|::  : || ||||:|||||  |
Db        689 ELAGQEEEEALEGLEVMDVFLRFSGLHLFRAVEPGLVQKFSLRDCSPRLSEELYHRCRLS 748

Qy        752 VLEGLGSRTQLAMLLFEQEQGNST 775
              ||||| | |||| |||||| |||
Db        749 NLEGLGGRAQLAMALFEQEQANST 772
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Sequence Comparison C

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ID   Q9H0F8      PRELIMINARY;      PRT;   522 AA.
AC   Q9H0F8;
DT   01-MAR-2001 (TrEMBLrel. 16, Created)
DT   01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
DT   01-OCT-2002 (TrEMBLrel. 22, Last annotation update)
DE   Hypothetical protein.
GN   DKFZP434E0423.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Testis;
RX   MEDLINE=21154917; PubMed=11230166;
RA   Wiemann S., Weil B., Wellenreuther R., Gassenhuber J., Glassl S.,
RA   Ansorge W., Boecher M., Bloecker H., Bauersachs S., Blum H.,
RA   Lauber J., Duesterhoeft A., Beyer A., Koehrer K., Strack N.,
RA   Mewes H.W., Ottenwaelder B., Obermaier B., Tampe J., Heubner D.,
RA   Wambutt R., Korn B., Klein M., Poustka A.;
RT   "Towards a Catalog of Human Genes and Proteins: Sequencing and
RT   Analysis of 500 Novel Complete Protein Coding Human cDNAs.";
RL   Genome Res. 11:422-435(2001).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Lymph;
RA   Strausberg R.;
RL   Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Brain;
RA   Strausberg R.;
RL   Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
DR   EMBL; AL136814; CAB66748.1; -.
DR   EMBL; BC013369; AAH13369.1; -.
DR   EMBL; BC021223; AAH21223.1; -.
KW   Hypothetical protein.
SQ   SEQUENCE   522 AA;  58355 MW;  87501CE0A043AE3B CRC64;

  Query Match             67.1%;  Score 2732;  DB 4;  Length 522;
  Best Local Similarity   99.8%;  Pred. No. 3e-184;
  Matches  521;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy        254 MLLQQLRPHLEGCRNDIVSARPDEWLGRCILDATGVGCTGDHEGVHYSHLELSPGEPVQE 313
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MLLQQLRPHLEGCRNDIVSARPDEWLGRCILDATGVGCTGDHEGVHYSHLELSPGEPVQE 60

Qy        314 GDPHFRSALTAHPVRDPVHMYQLHKAFARAELERTYQEIQELQWEIQNTSHLAVDGDRAA 373
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GDPHFRSALTAHPVRDPVHMYQLHKAFARAELERTYQEIQELQWEIQNTSHLAVDGDRAA 120

Qy        374 AWPVGIPAPSRPASRFEVLRWDYFTEQHAFSCADGSPRCPLRGADRADVADVLGTALEEL 433
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 AWPVGIPAPSRPASRFEVLRWDYFTEQHAFSCADGSPRCPLRGADRADVADVLGTALEEL 180

Qy        434 NRRYHPALRLQKQQLVNGYRRFDPARGMEYTLDLQLEALTPQGGRRPLTRRVQLLRPLSR 493
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 NRRYHPALRLQKQQLVNGYRRFDPARGMEYTLDLQLEALTPQGGRRPLTRRVQLLRPLSR 240

Qy        494 VEILPVPYVTEASRLTVLLPLAAAERDLAPGFLEAFATAALEPGDAAAALTLLLLYEPRQ 553
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 VEILPVPYVTEASRLTVLLPLAAAERDLAPGFLEAFATAALEPGDAAAALTLLLLYEPRQ 300
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Qy        554 AQRVAHADVFAPVKAHVAELERRFPGARVPWLSVQTAAPSPLRLMDLLSKKHPLDTLFLL 613
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 AQRVAHADVFAPVKAHVAELERRFPGARVPWLSVQTAAPSPLRLMDLLSKKHPLDTLFLL 360

Qy        614 AGPDTVLTPDFLNRCRMHAISGWQAFFPMHFQAFHPGVAPPQGPGPPELGRDTGRFDRQA 673
              |||||||||||||||||||||||||||||||| ||||||||||||||||||||||||||
Db        361 AGPDTVLTPDFLNRCRMHAISGWQAFFPMHFQAFHPAVAPPQGPGPPELGRDTGRFDRQA 420

Qy        674 ASEACFYNSDYVAARGRLAAASEQEEELLESLDVYELFLHFSSLHVLRAVEPALLQRYRA 733
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 ASEACFYNSDYVAARGRLAAASEQEEELLESLDVYELFLHFSSLHVLRAVEPALLQRYRA 480

Qy        734 QTCSARLSEDLYHRCLQSVLEGLGSRTQLAMLLFEQEQGNST 775
              |||||||||||||||||||||||||||||||||||||||||||
Db        481 QTCSARLSEDLYHRCLQSVLEGLGSRTQLAMLLFEQEQGNST 522
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